

MEMORANDUM FOR: Clifton S. Middleton
Project Director, Survey Section B

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: INSTRUCTIONS: Reconnaissance (Mark Setting)
at Westford, Massachusetts, CORS Site
Task Number: 8K6D4000

GENERAL:

The National Geodetic Survey (NGS) is establishing two reference marks at the Westford Continuously Operating Reference Station (CORS) site in Massachusetts. These stations will be tied to the CORS antenna at the site, as well as to the local Federal Base Network/Cooperative Base Network (FBN/CBN) through GPS observations. Thus, reconnaissance is required to establish two reference marks suitable for GPS occupation at the site.

Since the reference marks will be tied to the local FBN/CBN, it is also necessary to recon the nearest FBN/CBN station and a backup station. The nearest FBN/CBN station is HAYSTACK OCP 3 (PID MY2210) and the backup station is either ZBW A (PID AA3502) or ZBW B (PID AA3501), whichever is more suitable as an FBN (i.e., accessibility).

PURPOSE:

The subsequent GPS/Leveling projects will provide reference station coordinates relative to the local FBN/CBN, thus reducing the potential for inconsistencies between the CORS site and the local network. They will also provide a check on the FBN/CBN relative to the CORS coordinates. The on-site reference marks will also provide a very accurate tie to the antenna as an aid to repositioning the antenna should that become necessary.

MARK SETTING

The NGS IDB (list included) shows numerous marks within 1 km of the CORS. Some preliminary research has been done, and it appears that only five of the marks (three vertical and two both horizontal and vertical) may be suitable for GPS occupation.

N/NGS21:DHendrickson:713-3191:amg:04-27-00
A:\WEST.CORS

(Other marks on the IDB list can be double-checked as possibilities. The five possible marks are highlighted on the enclosed IDB list.)

If possible, two of these marks, preferably with vertical control, should be used as the CORS reference marks, if suitable as such. If not, reference marks WES2 A and, if necessary, WES2 B must be sited and set at the site.

In general, the two CORS reference marks must be suitable for GPS occupation and be located within 1 km of the CORS antenna site. They must be at least B-stability, with A-stability preferred. Preference should be given to existing marks with vertical control. The minimum quality mark set shall be a GPS 3-D monument. The CORS marks should be set as close as possible to the CORS antenna. These marks are not established to obtain azimuth with optical surveying equipment. The purpose of these marks is to provide redundant reference marks for referencing the CORS antenna at the facility.

STATION DESCRIPTIONS:

Station descriptions must be submitted in computer-readable form using DDPROC software. Include the name, address, and, if public ownership, the telephone number of the responsible party. Do not include the telephone numbers of private property owners.

LIAISON:

The street address of the following NGS offices in Building SSMC3 is:

1315 East-West Highway
Silver Spring, MD 20910-3282

Questions concerning survey operations shall be directed to:

William T. McLemore, Jr.
Chief, Field Operations Branch
Observation and Analysis Division
SSMC3 -- N/NGS41, Station 8564
Telephone: 301-713-3215, ext. 117

FAX: 301-713-4327
e-Mail: mclemore@ngs.noaa.gov

Questions concerning the GPS portion of the project shall be directed to:

Stephen J. Frakes or Douglas R. Hendrickson
Project Development Branch
Spatial Reference System Division
SSMC3 -- N/NGS21, Station 8853
Telephone: 301-713-3194, ext. 111 or ext. 127
FAX: 301-713-4316
e-Mail: steve@ngs.noaa.gov or dough@ngs.noaa.gov

Contact the Point-of-Contact 3 or 4 days before arriving at the CORS site. The point of contact is:

Arthur Niell
Haystack Observatory
Route 40
Westford, MA 01886
Telephone: 781-981-5416 (primary)
978-692-4764 (secondary)
FAX: 781-981-0590
e-Mail: aen@dopey.haystack.edu

A secondary contact at the same address is:

Mike Poirier
Telephone: 781-981-5556 (primary)
978-692-4764 (secondary)

DATA:

All records for this project shall be archived following the EAST COAST FBN, 2000, reconn project instructions.

REPORT:

A summary of reconnaissance activities shall be included in the final project report.

ADDRESS:

Keep the Field Operations Branch informed of the party's physical address and telephone number at all times.

PUBLICITY:

See "NGS Operations Handbook," Section 1.4.1.

EXPENSES:

Expenses for this project will be charged to Task Number 8K6D4000.

TRAVEL:

Travel and per diem are authorized in accordance with Federal Travel Regulations, Part 301-11, Per Diem Allowances. Current per diem rates were effective January 1, 2000.

ACKNOWLEDGMENT:

Please acknowledge receipt of these instructions in your Monthly Report.

cc: N/NGS - D. Zilkoski*
 N/NGS - S. Misenheimer*
 N/NGS - D. Milbert
 N/NGS1 - G. Mitchell
 N/NGS1x1 - C. Crow
 N/NGS11 - S. Cofer
 N/NGS21 - S. Frakes
 N/NGS21 - R. Anderson
 N/NGS21 - C. Craig*
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 Arthur Niell, Haystack Observatory
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* first page only